



## SEQUENCE LISTING

<110> Xiong, Yue  
Ohta, Tomohiko

<120> Isolation of ROC1 and ROC2

<130> Xiong and Ohta

<160> 41

<170> PatentIn Ver. 2.1

BEST AVAILABLE COI

<210> 1

<211> 327

<212> DNA

<213> Homo sapiens

<221> CDS

<222> (1) .. (327)

<400> 1

atg gcg gca gcg atg gat gtg gat acc ccg agc ggc acc aac agc ggc 48  
Met Ala Ala Ala Met Asp Val Asp Thr Pro Ser Gly Thr Asn Ser Gly  
1 5 10 15

gcg ggc aag aag cgc ttt gaa gtg aaa aag tgg aat gca gta gcc ctc 96  
Ala Gly Lys Lys Arg Phe Glu Val Lys Lys Trp Asn Ala Val Ala Leu  
20 25 30

tgg gcc tgg gat att gtg gtt gat aac tgt gcc atc tgc agg aac cac 144  
Trp Ala Trp Asp Ile Val Val Asp Asn Cys Ala Ile Cys Arg Asn His  
35 40 45

att atg gat ctt tgc ata gaa tgt caa gct aac cag gcg tcc gct act 192  
Ile Met Asp Leu Cys Ile Glu Cys Gln Ala Asn Gln Ala Ser Ala Thr  
50 55 60

tca gaa gag tgt act gtc gca tgg gga gtc tgt aac cat gct ttt cac 240  
Ser Glu Glu Cys Thr Val Ala Trp Gly Val Cys Asn His Ala Phe His  
65 70 75 80

ttc cac tgc atc tct cgc tgg ctc aaa aca cga cag gtg tgt cca ttg 288  
Phe His Cys Ile Ser Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu  
85 90 95

gac aac aga gag tgg gaa ttc caa aag tat ggg cac tag 327  
Asp Asn Arg Glu Trp Glu Phe Gln Lys Tyr Gly His  
100 105

<210> 2

<211> 108

<212> PRT

<213> Homo sapiens

<400> 2

Met Ala Ala Ala Met Asp Val Asp Thr Pro Ser Gly Thr Asn Ser Gly  
1 5 10 15  
Ala Gly Lys Lys Arg Phe Glu Val Lys Lys Trp Asn Ala Val Ala Leu  
20 25 30  
Trp Ala Trp Asp Ile Val Val Asp Asn Cys Ala Ile Cys Arg Asn His  
35 40 45  
Ile Met Asp Leu Cys Ile Glu Cys Gln Ala Asn Gln Ala Ser Ala Thr  
50 55 60

Ser Glu Glu Cys Thr Val Ala Trp Gly Val Cys Asn His Ala Phe His  
 65 70 75 80  
 Phe His Cys Ile Ser Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu  
 85 90 95  
 Asp Asn Arg Glu Trp Glu Phe Gln Lys Tyr Gly His  
 100 105

BEST AVAILABLE COPY

<210> 3  
 <211> 342  
 <212> DNA  
 <213> Homo sapiens  
 <221> CDS  
 <222> (1) .. (342)  
 <400> 3

atg gcc gac gtg gaa gac gga gag gaa acc tgc gcc ctg gcc tct cac 48  
 Met Ala Asp Val Glu Asp Gly Glu Glu Thr Cys Ala Leu Ala Ser His  
 1 5 10 15

tcc ggg agc tca ggc tca acg tgc gga ggc gac aag atg ttc tcc ctc 96  
 Ser Gly Ser Ser Gly Ser Thr Ser Gly Gly Asp Lys Met Phe Ser Leu  
 20 25 30

aag aag tgg aac ccg gtg gcc atg tgg agc tgg gac gtg gag tgc gat 144  
 Lys Lys Trp Asn Pro Val Ala Met Trp Ser Trp Asp Val Glu Cys Asp  
 35 40 45

acg tgc gcc atc tgc agg gtc cag gtg atg gat gcc tgt ctt aga tgt 192  
 Thr Cys Ala Ile Cys Arg Val Gln Val Met Asp Ala Cys Leu Arg Cys  
 50 55 60

caa gct gaa aac aaa caa gag gac tgt gtt gtg gtc tgg gga gaa tgt 240  
 Gln Ala Glu Asn Lys Gln Glu Asp Cys Val Val Val Trp Gly Glu Cys  
 65 70 75 80

aat cat tcc ttc cac aac tgc tgc atg tcc ctg tgg gtg aaa cag aac 288  
 Asn His Ser Phe His Asn Cys Cys Met Ser Leu Trp Val Lys Gln Asn  
 85 90 95

aat cgc tgc cct ctc tgc cag cag gac tgg gtg gtc caa aga atc ggc 336  
 Asn Arg Cys Pro Leu Cys Gln Gln Asp Trp Val Val Gln Arg Ile Gly  
 100 105 110

aaa tga  
 Lys

342

<210> 4  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens  
 <400> 4

Met Ala Asp Val Glu Asp Gly Glu Glu Thr Cys Ala Leu Ala Ser His  
 1 5 10 15  
 Ser Gly Ser Ser Gly Ser Thr Ser Gly Gly Asp Lys Met Phe Ser Leu  
 20 25 30  
 Lys Lys Trp Asn Pro Val Ala Met Trp Ser Trp Asp Val Glu Cys Asp  
 35 40 45  
 Thr Cys Ala Ile Cys Arg Val Gln Val Met Asp Ala Cys Leu Arg Cys  
 50 55 60

Gln Ala Glu Asn Lys Gln Glu Asp Cys Val Val Val Trp Gly Glu Cys  
65 70 75 80  
Asn His Ser Phe His Asn Cys Cys Met Ser Leu Trp Val Lys Gln Asn  
85 90 95  
Asn Arg Cys Pro Leu Cys Gln Gln Asp Trp Val Val Gln Arg Ile Gly  
100 105 110  
Lys

## BEST AVAILABLE COPY

<210> 5  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 5

tttaaagaga aataggatcc catgagcaac gaa

33

<210> 6  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 6

ttaaagtgtt acggggaatt cattttttca cct

33

<210> 7  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<220>  
<223> Description of Artificial Sequence: PCR Primer  
<400> 7  
ggcaatacag attaggatcc tatgaaagtt aaa

33

<210> 8  
<211> 33  
<212> DNA  
<223> Description of Artificial Sequence: PCR Primer  
<400> 8  
aattgtgatt tctagaattc ttttttatcg taa

33

<210> 9  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 9  
atccccatgg ctatgataac taataagaaa ata

33

<210> 10  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer

<400> 10  
ctgcagagct cgtaggaaa ggtaatggta ata

33

## BEST AVAILABLE COPY

<210> 11  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 11

atcccatgg ctatgataaa tgagagcgtt tcc

33

<210> 12  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 12

agctcgtcga cattagtact tgtaagttgc tat

33

<210> 13  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 13

atcccatgg ctatgctatt tcagattacc cca

33

<210> 14  
<211> 33  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 14

agctcgtcga catcatgagt ttttatgccc att

33

<210> 15  
<211> 15  
<212> PRT  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: Synthetic Peptide  
<400> 15

Cys Met Ala Ala Ala Met Asp Val Asp Thr Pro Ser Gly Thr Asn  
1 5 10 15

<210> 16  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic Peptide  
<400> 16

Cys Asp Asn Arg Glu Trp Glu Phe Gln Lys Tyr Gly His  
1 5 10

BEST AVAILABLE COPY

<210> 17

<211> 9

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic Peptide

<400> 17

Cys Arg Gln Glu Trp Lys Phe Lys Glu  
1 5

<210> 18

<211> 14

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic Peptide

<400> 18

Cys Arg Ser Gln Ala Ser Ala Asp Glu Tyr Ser Tyr Val Ala  
1 5 10

<210> 19

<211> 60

<212> DNA

<213> Artificial Sequence

<223> Description of Artificial Sequence: PCR Primer

<400> 19

ttctccagtgcgagagaact ttaaagagaa atagttcaac cggatccccg ggtaattaa 60

<210> 20

<211> 60

<212> DNA

<213> Artificial Sequence

<223> Description of Artificial Sequence: PCR Primer

<400> 20

acctcggtat gatttaaattg tttacgggca attcattttt gaattcgagc tcgtttaaac 60

<210> 21

<211> 60

<212> DNA

<213> Artificial Sequence

<223> Description of Artificial Sequence: PCR Primer

<400> 21

atagacgtat gggcttcaat atgtgcaatg ttggttgcta gaattcgagc tcgtttaaac 60

<210> 22

<211> 60

<212> DNA

<213> Artificial Sequence

<223> Description of Artificial Sequence: PCR Primer  
<400> 22

catcttcacac aacatccacac ctgtcaactt cgttgctcat gcactgagca gcgtaatctg 60

<210> 23  
<211> 60  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 23

caagccaaag gcattgtttc aatctaggga tcaagagcat cggatccccg ggtaattaa 60

<210> 24  
<211> 60  
<212> DNA  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: PCR Primer  
<400> 24

taaaatataa tcgtccaga aactttttt tttcatttct gaattcgagc tcgtttaaac 60

<210> 25  
<211> 6  
<212> PRT  
<213> Homo sapiens  
<221> PEPTIDE  
<222> (1)..(6)  
<223> Partial Protein Sequence  
<400> 25

Lys Asp Val Phe Gln Lys  
1 5

<210> 26  
<211> 12  
<212> PRT  
<213> Homo sapiens  
<221> PEPTIDE  
<222> (1)..(12)  
<223> Partial Protein Sequence  
<400> 26

Lys Ile Phe Leu Glu Asn His Val Arg His Leu His  
1 5 10

<210> 27  
<211> 8  
<212> PRT  
<213> Homo sapiens  
<221> PEPTIDE  
<222> (1)..(8)  
<223> Partial Protein Sequence  
<400> 27

Lys Asp Val Phe Glu Arg Tyr Tyr  
1 5

BEST AVAILABLE COPY

# BEST AVAILABLE COPY

<210> 28  
 <211> 7  
 <212> PRT  
 <213> Homo sapiens  
 <221> PEPTIDE  
 <222> (1)..(7)  
 <223> Partial Protein Sequence  
 <400> 28

Lys Val Tyr Thr Tyr Val Ala  
 1 5

<210> 29  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens  
 <221> PEPTIDE  
 <222> (1)..(11)  
 <223> Partial Protein Sequence  
 <400> 29

Lys Arg Ile Glu Ser Leu Ile Asp Arg Asp Tyr  
 1 5 10

<210> 30  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens  
 <221> SIMILAR  
 <222> (1)..(82)  
 <223> Partial Protein Sequence  
 <400> 30

Phe Glu Val Lys Lys Trp Asn Ala Val Ala Leu Trp Ala Trp Asp Ile  
 1 5 10 15

Val Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Asp Leu Cys  
 20 25 30

Ile Glu Cys Gln Ala Asn Gln Ala Ser Ala Thr Ser Glu Glu Cys Thr  
 35 40 45

Val Ala Trp Gly Val Cys Asn His Ala Phe His Phe His Cys Ile Ser  
 50 55 60

Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu Asp Asn Arg Glu Trp  
 65 70 75 80

Glu Phe

<210> 31  
 <211> 82  
 <212> PRT  
 <213> *Drosophila melanogaster*  
 <221> SIMILAR  
 <222> (1)..(82)  
 <223> Partial Protein Sequence  
 <400> 31

Phe Glu Val Lys Lys Trp Asn Ala Val Ala Leu Trp Ala Trp Asp Ile  
1 5 10 15

Val Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Asp Leu Cys  
20 25 30

Ile Glu Cys Gln Ala Asn Gln Ala Ser Ala Thr Ser Glu Glu Cys Thr  
35 40 45

Val Ala Trp Gly Val Cys Asn His Ala Phe His Phe His Cys Ile Ser  
50 55 60

Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu Asp Asn Arg Glu Tyr  
65 70 75 80

Asp Phe

<210> 32  
<211> 82  
<212> PRT  
<213> Caenorhabditis elegans  
<221> SIMILAR  
<222> (1)..(82)  
<223> Partial Protein Sequence  
<400> 32

BEST AVAILABLE COPY

Phe Glu Val Lys Lys Trp Ser Ala Val Ala Leu Trp Ala Trp Asp Ile  
1 5 10 15

Gln Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Asp Leu Cys  
20 25 30

Ile Glu Cys Gln Ala Asn Gln Ala Ala Gly Leu Lys Asp Glu Cys Thr  
35 40 45

Val Ala Trp Gly Asn Cys Asn His Ala Phe His Phe His Cys Ile Ser  
50 55 60

Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu Asp Asn Arg Glu Trp  
65 70 75 80

Glu Phe

<210> 33  
<211> 82  
<212> PRT  
<213> Arabidopsis thaliana  
<221> SIMILAR  
<222> (1)..(82)  
<223> Partial Protein Sequence  
<400> 33

Phe Glu Ile Lys Lys Trp Ser Ala Val Ala Leu Trp Ala Trp Asp Ile  
1 5 10 15

Val Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Asp Leu Cys  
20 25 30

Ile Glu Cys Gln Ala Asn Gln Ala Ser Ala Thr Ser Glu Glu Cys Thr  
35 40 45



Val Ala Trp Gly Val Cys Asn His Ala Phe His Phe His Cys Ile Ser  
50 55 60

Arg Trp Leu Lys Thr Arg Gln Val Cys Pro Leu Asp Asn Ser Glu Trp  
65 70 75 80

Glu Phe

<210> 34  
<211> 82  
<212> PRT  
<213> Schizosaccharomyces pombe  
<221> SIMILAR  
<222> (1)..(82)  
<223> Partial Protein Sequence  
<400> 34

BEST AVAILABLE COPY

Phe Glu Ile Lys Lys Trp Asn Ala Val Ala Leu Trp Gln Trp Asp Ile  
1 5 10 15

Val Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Asp Leu Cys  
20 25 30

Ile Glu Cys Gln Ala Asn Thr Asp Ser Ala Ala Ala Gln Glu Cys Thr  
35 40 45

Val Ala Trp Gly Thr Cys Asn His Ala Phe His Phe His Cys Ile Ser  
50 55 60

Arg Trp Leu Asn Thr Arg Asn Val Cys Pro Leu Asp Asn Arg Glu Trp  
65 70 75 80

Glu Phe

<210> 35  
<211> 82  
<212> PRT  
<213> Saccharomyces cerevisiae  
<221> SIMILAR  
<222> (1)..(82)  
<223> Partial Protein Sequence  
<400> 35

Phe Glu Ile Lys Lys Trp Thr Ala Val Ala Phe Trp Ser Trp Asp Ile  
1 5 10 15

Ala Val Asp Asn Cys Ala Ile Cys Arg Asn His Ile Met Glu Pro Cys  
20 25 30

Ile Glu Cys Gln Pro Lys Ala Met Thr Asp Thr Asp Asn Glu Cys Val  
35 40 45

Ala Ala Trp Gly Val Cys Asn His Ala Phe His Leu His Cys Ile Asn  
50 55 60

Lys Trp Ile Lys Thr Arg Asp Ala Cys Pro Leu Asp Asn Gln Pro Trp  
65 70 75 80

Gln Leu

# BEST AVAILABLE COPY

<210> 36  
 <211> 79  
 <212> PRT  
 <213> Homo sapiens  
 <221> SIMILAR  
 <222> (1)..(79)  
 <223> Partial Protein Sequence  
 <400> 36

Phe Ser Leu Lys Lys Trp Asn Ala Val Ala Met Trp Ser Trp Asp Val  
 1 5 10 15

Glu Cys Asp Thr Cys Ala Ile Cys Arg Val Gln Val Met Asp Ala Cys  
 20 25 30

Leu Arg Cys Gln Ala Glu Asn Lys Gln Glu Asp Cys Val Val Val Trp  
 35 40 45

Gly Glu Cys Asn His Ser Phe His Asn Cys Cys Met Ser Leu Trp Val  
 50 55 60

Lys Gln Asn Asn Arg Cys Pro Leu Cys Gln Gln Asp Trp Val Val  
 65 70 75

<210> 37  
 <211> 78  
 <212> PRT  
 <213> Caenorhabditis elegans  
 <221> SIMILAR  
 <222> (1)..(78)  
 <223> Partial Protein Sequence  
 <400> 37

Phe Val Leu Lys Lys Trp Asn Ala Leu Ala Val Trp Ala Trp Asp Val  
 1 5 10 15

Glu Cys Asp Thr Cys Ala Ile Cys Arg Val His Leu Met Glu Glu Cys  
 20 25 30

Leu Arg Cys Gln Ser Glu Pro Ser Ala Glu Cys Tyr Val Val Trp Gly  
 35 40 45

Asp Cys Asn His Ser Phe His His Cys Cys Met Thr Gln Trp Ile Arg  
 50 55 60

Gln Asn Asn Arg Cys Pro Leu Cys Gln Lys Asp Trp Val Val  
 65 70 75

<210> 38  
 <211> 80  
 <212> PRT  
 <213> Homo sapiens  
 <221> SIMILAR  
 <222> (1)..(80)  
 <223> Partial Protein Sequence  
 <400> 38

Val Lys Ile Lys Cys Trp Asn Gly Val Ala Thr Trp Leu Trp Val Ala  
 1 5 10 15  
 Asn Asp Glu Asn Cys Gly Ile Cys Arg Met Ala Phe Asn Gly Cys Cys  
 20 25 30  
 Pro Asp Cys Lys Val Pro Gly Asp Asp Cys Pro Leu Val Trp Gly Gln  
 35 40 45  
 Cys Ser His Cys Phe His Met His Cys Ile Leu Lys Trp Leu His Ala  
 50 55 60  
 Gln Gln Val Gln Gln His Cys Pro Met Cys Arg Gln Glu Trp Lys Phe  
 65 70 75 80

<210> 39  
 <211> 80  
 <212> PRT  
 <213> Drosophila melanogaster  
 <221> SIMILAR  
 <222> (1)..(80)  
 <223> Partial Protein Sequence  
 <400> 39

BEST AVAILABLE COPY

Val Thr Ile Lys Ser Trp Thr Gly Val Ala Thr Trp Arg Trp Ile Ala  
 1 5 10 15  
 Asn Asp Glu Asn Cys Gly Ile Cys Arg Met Ser Phe Glu Ser Thr Cys  
 20 25 30  
 Pro Glu Cys Ala Leu Pro Gly Asp Asp Cys Pro Leu Val Trp Gly Val  
 35 40 45  
 Cys Ser His Cys Phe His Met His Cys Ile Val Lys Trp Leu Asn Leu  
 50 55 60  
 Gln Pro Leu Asn Lys Gln Cys Pro Met Cys Arg Gln Ser Trp Lys Phe  
 65 70 75 80

<210> 40  
 <211> 74  
 <212> PRT  
 <213> Caenorhabditis elegans  
 <221> SIMILAR  
 <222> (1)..(74)  
 <223> Partial Protein Sequence  
 <400> 40

Ile Thr Val Lys Lys Leu His Val Cys Gly Glu Trp Lys Trp Leu Asp  
 1 5 10 15  
 Thr Cys Gly Ile Cys Arg Met Glu Phe Glu Ser Ala Cys Asn Met Cys  
 20 25 30  
 Lys Phe Pro Gly Asp Asp Cys Pro Leu Val Leu Gly Ile Cys Arg His  
 35 40 45  
 Ala Phe His Arg His Cys Ile Asp Lys Trp Ile Gln Pro Arg Ala Gln  
 50 55 60

Cys Pro Leu Cys Arg Gln Asp Trp Thr Ile  
65 70

<210> 41  
<211> 76  
<212> PRT  
<213> Saccharomyces cerevisiae  
<221> SIMILAR  
<222> (1)..(76)  
<223> Partial Protein Sequence  
<400> 41

BEST AVAILABLE COPY

Val Lys Ile Asn Glu Val His Ser Val Phe Ala Trp Ser Trp Asp Val  
1 5 10 15

Cys Gly Ile Cys Arg Ala Ser Tyr Asn Gly Thr Cys Pro Ser Cys Lys  
20 25 30

Phe Pro Gly Asp Gln Cys Pro Leu Val Ile Gly Leu Cys His His Asn  
35 40 45

Phe His Asp His Cys Ile Tyr Arg Trp Leu Asp Thr Pro Thr Ser Lys  
50 55 60

Gly Leu Cys Pro Met Cys Arg Gln Thr Phe Gln Leu  
65 70 75